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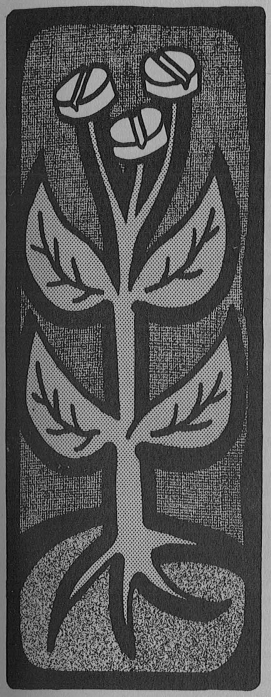

PACIFIC INFORMATION SERVICE ON STREET-DRUGS

j.k. brown
m.h. malone
: editors

VOL. TWO NO. 2

Letters to the editors

Dear Dr. Malone:

It is encouraging to see an effort being made by the Pacific Information Service on Street-Drugs to provide the public with valid information regarding drugs of misuse. The Cincinnati Drug and Poison Information Center concerns itself with similar attempts at dissemination of valid information.

I would like to comment on a statement made in Bulletin No. 6, p.32 "A dose of Reds properly injected into a vein travels back to the heart where it is pumped into all arteries of the body. In this way the barbiturate salt is diluted and each tissue receives only a small portion of the total dose. In this way the problem of pain, tissue damage and possible gangrene are avoided." The difficulties I have with this statement are: 1. The term "reds" is non specific and may encompass any commercial or street dosage form of seco-barbital; 2. None of the commercial or street dosage forms are sterile and thus may result in various infections when injected i. v.; 3. Many commercial and street dosage forms of secobarbital contain finely divided particles of material which are not soluble in blood and thus do not dissolve at all, eg. talc, fillers, binders, etc. These materials have been shown to cause serious pulmonary, renal and neurologic deficit, by virtue of the fact that they lodge in arterioles and capillary beds producing obstruction to blood flow which results in tissue anoxia, degeneration, necrosis and fibrosis.(1,2,3,4,5,6,7,8,9,10,11) For these reasons, I feel that the statement "In this way the problems of pain, tissue damage and possible gangrene are avoided." is misleading to the lay public in that they may assume that there is no other danger than CNS depression of the respiratory center from the i. v. injection of the contents of a secobarbital capsule.

This communication is meant as constructive criticism and it is my hope that it will be received in that light.

Sincerely,

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Continued on page 12

Street Speed.

The analysis, in our laboratory, of 19 samples of street-drugs alleged to be amphetamines resulted in a positive amphetamine response for 17 of the samples and most of these samples (16) were "White Crosses". However, while amphetamines are usually amphetamines in the street market, the amount of drug may vary from a low of 2.5 mg. to a high of 10 mg. per tablet in the "White Crosses" (1). Three tablets of a low potency tablet may be just the right amount to produce the euphoria and feelings of confidence that the user desires. However, if the user gets a high potency tablet and again consumes three tablets, a toxic reaction may be precipitated -- a reaction difficult to manage safely without medical help.

Treatment of amphetamine overdosage should include acidification of urine, which requires hospitalization. To reduce the acute anxiety, the purposeless hyperactivity and to prevent possible convulsions, remove all noxious stimuli such as bright lights, loud noise and music from the subjects environment. Do not induce vomiting and do not give barbiturates (2).

Due to increasing concern over the adverse effects induced by the misuse of amphetamines, these drugs recently have been subjected to intense investigation. In 1970, the Food and Drug Administration (FDA) restricted the legal use of the amphetamines to three types of conditions: in obesity, for overactive (hyperkinetic) children, and for individuals who compulsively fall asleep during the daytime -- a condition known as narcolepsy (3). Today, more effective drugs and drugs with less dependence potential are available for each of these uses. The amphetamines now have no place in therapeutics -- however, their production continues. Nearly all of this chemical is either legally misused or channeled into the street market.

The following are common types of misuse:

1. The amphetamine-barbiturate cycle prevelant in America. This type of misuse is found primarily among business men in their 30's and women between 20 and 30 years of age (4). The amphetamine provides a feel-fine/fast-start for a long work day, at the end of which, a pseudo-sleep is induced by a barbiturate. The hang-over from this "sleep" is terminated the following morning by taking another amphetamine (5). Prolonged continuation of this cycle leads to combined amphetamine and barbiturate addiction, psychosis, and physical deterioration.
2. Truck drivers, college students, medical personnel, and those

with nocturnal occupations use amphetamines to combat fatigue and boredom and in cramming for exams (4). College students begin to take amphetamine and methamphetamine supposing that it will make them brighter and more intelligent. This is a perfect example of wishful (and dangerous) thinking. No drug can provide test answers to a brain lacking the stored factual information. Even when students have studied properly and their memory banks are full of information, the amphetamines will not improve their performance if the test format requires any process of logic. Regurgitation of facts can be facilitated by the amphetamines but correlation of facts, inductive reasoning, and mathematical accuracy are all depressed. The mind does not think logically in any emotional state, whether naturally-induced or drug-induced (6).

3. The "Speed Freak" is in a class by himself. Speed (methamphetamine hydrochloride, an amphetamine analogue) may be taken orally in tablet form or injected intravenously. No matter what the route, a euphoric dose will also produce nervousness, hyperactivity, loss of appetite, loss of sleep, and atropine-like side effects (i.e. dry mouth, constipation, rapid heart rate etc.). In a "run" or "speed binge" (hours or days of continually injecting methamphetamine every 2 or 3 hours), tolerance (more and more drug to get the desired effect) will develop quite rapidly so that massive doses of 500 to 1000 mg. may eventually be injected. The general effects of an intravenous injection have been well described:

> "The physical effects of methamphetamine are quite variable depending on dose, duration of drug use, mental state and drug environment of the individual user. In general, however, after the intravenous user injects the drug in sufficient quantity, he experiences a "flash or rush" which he describes as orgasmic in nature. After this initial experience, he usually becomes euphoric, with an increase in motor and speech activity. The individual may stay hyperactive for many hours with no signs of fatigue ...This action phase of stimulation may last for several days in which the individual does not sleep and rarely eats. For a variety of reasons, this action phase terminates, however. The user may stop voluntarily because of fatigue, he may become confused, paranoid, or panic-stricken and stop "shooting", or he may simply run out of drug." (7)

Approximately 24 hours after the last dose of the drug, abstinence manifests itself by acute mental depression, fatigue, depressed respiration and a low body temperature. By 48 hours, the individual is almost completely apathetic whenever he is not busily sleeping. He must be watched as in a waking moment

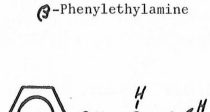
he may attempt to commit suicide. His muscular strength, however, is almost nil. After a 96 hour period, the individual appears relatively normal, but will not be normally responsive for a month after cessation of the drug. If the drug abuse has been maintained over a long period of time, there will be a permanent disintegration of personality and a lowering of IQ. Continued chronic use of the amphetamines masks fatigue states (periodic sleep and rest are essential for repair and maintenance of nerve tissue) and this eventually leads to actual degeneration of tissue, lowering of IQ, etc. Hence the term "Speed Kills".(6)

The basic chemical structure is a phenylethylamine nucleus (Fig. 1). Any modification, addition or subtraction to this structure will accenuate, reduce or abolish some selective action(8).

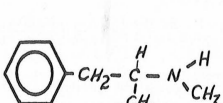
Amphetamines stimulate activity in the medial forebrain bundles -- the reward system. (9,10) Stimulation of this area is experienced by an individual as pleasure (euphoria). The reticular activating system is also aroused by amphetamines. Stimulation of this area makes an individual more alert and more aware of his environment. For a detailed explanation of the mechanism of action of the amphetamines see references number 8,10 and 11.

The obvious effects of the chronic use of amphetamines (loss of weight, fatigue and addiction) are not the most detrimental. A more subtle, but much more severe complication, is the development of a paranoid psychosis.(4,8,10, 12,13) Heavy amphetamine users become suspicious and hostile, developing feelings that can lead to violence.(4, 13)

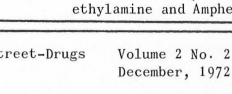
The amphetamine psychosis has been well researched and is described as follows:



β-Phenylethylamine



1-Phenyl-2-aminopropane
(d,l-Amphetamine, Benzedrine)



N,α-Dimethylphenylethylamine
(Methamphetamine, Speed)

FIG. 1 Structures of β-Phenylethylamine and Amphetamines

"a well-defined syndrome of a paranoid state with auditory and visual hallucinations in a setting of clear consciousness ... two distinctive features of amphetamine psychosis are the prominence of visual hallucinations in some cases and the absence of thought disorder in all cases."

The incidence of hallucinations and psychosis with chronic use of the amphetamines is interesting when one considers the structural similarity between the amphetamines and the mescaline-like agents (Fig.2).

Dana B. Nelson
December 11, 1972

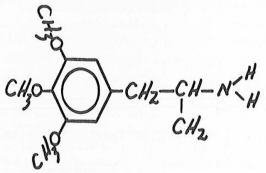


FIG.2 3,4,5-Trimethoxyamphetamine (TMA)

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We appreciate receiving letters of comment about the articles that are published in the Bulletin. Please write with any comments that you may have and if there is space we will be pleased to publish them.
The Editors

We , the editors, would appreciate topics for future issues. At the present time we are planning on issues of the Bulletin featuring, cocaine, heroin and the opiates, marihuana, and would appreciate an article on the hallucinogenic amphetamine derivatives.

For more detailed information on the amphetamines, we suggest that you see reference 13. Very good, covers many aspects of the use and abuse of these compounds.